AMENDMENTS TO THE CLAIMS

Claim 1 **(Currently amended):** A method of detecting a breast cancer marker in a human, said method comprising:

(i) providing a biological sample from said human;

(ii) detecting the level of CYP24 nucleic acid or CYP24 protein, within said biological sample, wherein said CYP24 nucleic acid or CYP24 protein is a nucleic acid or protein encoded by a ~~**the endogenous**~~ vitamin D 24 hydroxylase (*CYP24*) gene **that can be amplified using amplification primers, wherein one primer comprises SEQ ID NO: 1 and another primer comprises SEQ ID NO: 2**; and

(iii) comparing said level of CYP24 nucleic acid or CYP24 protein with a level of CYP24 nucleic acid or CYP24 protein in a control sample taken from a normal, cancer-free tissue; wherein an increased level of CYP24 nucleic acid or CYP24 protein in said biological sample compared to the level of CYP24 nucleic acid or CYP24 protein in said control sample indicates the presence of~~**, or a predisposition to,**~~ **said** breast cancer **marker** in said human.

Claim 2 (Previously presented): The method of claim 1, wherein said level of CYP24 nucleic acid is detected by determining the copy number of CYP24 genes in the cells of said biological sample.

Claim 3 (Original): The method of claim 2, wherein said copy number is measured using Comparative Genomic Hybridization (CGH).

Claim 4 (Original): The method of claim 2, wherein said copy number is determined by hybridization to an array of nucleic acid probes.

Claim 5 (Original): The method of claim 3, wherein said Comparative Genomic Hybridization is performed on an array.

Claim 6 **(Currently amended):** The method of claim 1, wherein said level of CYP24 nucleic acid is detected by measuring the level of CYP24 mRNA in said biological sample, wherein an increased level of CYP24 mRNA in said sample compared to CYP24 mRNA in said control sample indicates the presence of~~**, or a predisposition to,**~~ **said** breast cancer **marker**.

Claim 7 (Original): The method of claim 6, wherein said level of CYP24 mRNA is measured in said biological sample and said control sample at the same vitamin D receptor activity or the CYP24 mRNA levels are normalized to the level of vitamin D receptor activity in the sample and control.

Claim 8 (Original): The method of claim 6, wherein said level of CYP24 mRNA is measured by hybridization to one or more probes on an array.

Claim 9 **(Currently amended):** The method of claim 1, wherein said level of CYP24 nucleic acid or CYP24 protein is detected by measuring the level of CYP24 protein in said biological sample, wherein an increased level of CYP24 protein in said sample as compared to CYP24 protein in said control sample indicates the presence of~~, or a predisposition to,~~ **said** breast cancer **marker**.

Claim 10 (Original): The method of claim 9, wherein the level of CYP24 protein is measured in the biological sample and the control sample at the same vitamin D receptor activity or the protein levels are normalized to the level of vitamin D receptor activity in the sample and control.

Claim 11 **(Currently amended):** The method of claim 1, wherein said level of CYP24 nucleic acid or CYP24 protein is detected by measuring the level of 25-hydroxyvitamin D3 24-hydroxylase enzyme activity in said biological sample, wherein an increased level of 25-hydroxyvitamin D3 24-hydroxylase enzyme activity in said sample as compared to 25-hydroxyvitamin D3 24-hydroxylase enzyme activity in said control sample indicates the presence of~~, or a predisposition to,~~ **said** breast cancer **marker**.

Claim 12 (Original): The method of claim 11, wherein said level of 25-hydroxyvitamin D3 24-hydroxylase activity is measured in said biological sample and said control sample at the same vitamin D receptor activity or the activity levels are normalized to the level of vitamin D receptor activity in the sample and control.

Claim 13 (Canceled).

Claim 14 (Original): The method of claim 1, wherein said biological sample is selected from the group consisting of excised tissue, whole blood, serum, plasma, buccal scrape, saliva, cerebrospinal fluid, and urine.

Claim 15 (Previously presented): The method of claim 1, wherein the difference between said increased level of CYP24 nucleic acid or CYP24 protein in said biological sample and the level of CYP24 nucleic acid or CYP24 protein in said control sample is a statistically significant difference at the 95 percent or greater confidence level.

Claim 16 (Previously presented): The method of claim 1, wherein said increased level of CYP24 nucleic acid or CYP24 protein in said biological sample is at least about 2-fold greater than the level of CYP24 nucleic acid or CYP24 protein in said control sample.

Claim 17 (Previously presented): The method of claim 1, wherein said increased level of CYP24 nucleic acid or CYP24 protein in said biological sample is at least about 4-fold greater than said level of CYP24 nucleic acid or CYP24 protein in said control sample.

Claims 18-70 (Canceled).

Claim **71** ~~**33**~~ (Previously Presented) The method of claim 9, wherein the level of CYP24 protein is measured by immunoassay using at least one antibody that specifically binds to CYP24 protein.